DOCUMENT RESUME

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ABSTRACT

Designed as a foundation course for the auto body repairman, the course is organized into five blocks of instruction: (1) orientation, (2) shop safety, (3) human relations, (4) service tools and bench skills, and (5) body repair tools and equipment, followed by a post-test. Ninety hours in length, the course requires that students have an eighth grade equivalency score in reading, comprehension, arithmetic fundamentals, mechanical aptitude, and the physical ability necessary to profit from the training. Instruction uses demonstrations, lectures, group discussions, audiovisual aids, and resource people from the industry. A bibliography lists basic and supplementary references and audiovisual aids. Sample post-tests conclude the course description. (MW)

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AUTHORIZED COURSE OF INSTRUCTION FOR THE QUINMESTER PROGRAM

V-26

Course Outline

AUTOMOTIVE BODY REPAIR AND REFINISHING - BASIC - 9033
(Introduction to Auto Body and Refinishing)
Department 48 - Quin 9033.01

CE 002233

DADE COUNTY PUBLIC SCHOOLS

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D A D E C O U N T Y P U B L I C S C H O O L S

1 4 5 0 N O R T H E A S T S E C O N D A V E N U E

M I A M I, F L O R I D A 33132

Course Outline

AUTOMOTIVE BODY REPAIR AND REFINISHING - BASIC - 9033
(Introduction to Auto Body and Refinishing)

Department 48 - Ouin 9033.01

county office of

VOCATIONAL AND ADULT EDUCATION

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Dr. E. L. Whigham, Superintendent of Schools
Dade County Public Schools
Miami, Florida 33132

December, 1972

Published by the School Board of Dade County

Course Description

9033	48	9033.01	INTRODUCTION TO AUTO BODY AND REFINISHING
State Category Number	County Dept. Number	County Course Number	Course Title

This quinmester course is designed as one of a group of quinmester courses offered in the field of auto body repairs. The student will receive the general information, technical knowledge, basic skills, attitudes and values that are required for job entry level as auto body repair helper. The student will be taught the safe use and proper care of basic hand tools in the automotive body repair and refinishing trade. This course will be given in a 9-week period.

Indicators of success: The applicant must demonstrate an eighth grade equivalency score in reading and math; also have average ability in mechanical aptitudes.

90 Clock Hours

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PREFACE

The following quinmester course outline is a guide to help students become employable with skills, knowledge, attitudes and values necessary for performing the required service of the auto body repair and refinishing trainee.

This course is designed as a foundation quinmester course for the auto body repairman. This outline consists of six blocks of instruction which are subdivided into several units each. It is only one part of a series of quinmester outlines designed for the complete auto body repairman. This course is 90 hours in length.

Prerequisites for this course is as follows: The student should have an eighth grade equivalency score in reading, comprehension, arithmetic fundamentals and mechanical aptitude. The student must be physically and mentally able to profit from this training.

Instruction will consist of demonstrations, lectures, group discussions, audio visual aids and resource people from industry. Instruction will be flexible to meet individual needs and abilities.

The bibliography appearing on the last page of this outline lists of several basic references; also supplementary references and audio visual aids.

This outline was developed through the cooperative efforts of the instructional and supervisory personnel, the quinmester advisory committee and the Vocational Curriculum Materials Service and has been approved by the Dade County Vocational Curriculum Committee.

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with Suggested Hourly Breakdown

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Shop Dress	3
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GOALS

The auto body repair trainee must be able to:

1. Demonstrate an understanding of the objectives of the course.
2. Demonstrate an understanding of school and shop rules.
3. Demonstrate an understanding of safety rules and work habits.
4. Demonstrate an understanding of safety precautions in the shop.
5. Demonstrate an understanding of human relations in the automotive field.
6. Demonstrate an understanding of service tools and bench skills.
7. Demonstrate an understanding of body repair tools and equipment.
8. Demonstrate an understanding of paint spray equipment and accessories.
9. Satisfactorily complete the post test.

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SPECIFIC BLOCK OBJECTIVES

BLOCK I - ORIENTATION

The student must be able to:

1. Explain the general and specific objectives of the course by oral assignment.
2. Explain the student benefits by oral assignment.
3. Demonstrate an understanding of the automotive body repairman and refinisher occupation by oral assignment.
4. Explain the school regulations, shop rules and procedures by oral assignment.

BLOCK II - SHOP SAFETY

The student must be able to:

1. Demonstrate an understanding of the types and uses of fire extinguishers by oral assignment.
2. List the types of fires that may occur in the shop by written assignment.
3. Explain the hazards created by fumes in the shop by oral assignment.
4. Demonstrate an understanding of electrical shock hazards in the shop by oral assignment.
5. Explain the safety rules pertaining to shop equipment by written assignment.
6. List the rules and safety precautions of shop dress by oral assignment.
7. Demonstrate an understanding of the chemicals used in the shop by oral assignment.

BLOCK III - HUMAN RELATIONS

The student must be able to:

1. Explain how to apply for a job by oral assignment.
2. Demonstrate an understanding of employer-employee relations by oral assignment.
3. Demonstrate an understanding of employee-employee relations by oral assignment.
4. Demonstrate an understanding of employee-customer relations by oral assignment.

BLOCK IV - SERVICE TOOLS AND BENCH SKILLS

The student must be able to:

1. Define the general types of tools by selection and identification test.
2. Exhibit the ability to properly use hand tools and bench skills for the assignment by shop performance.

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3. Demonstrate proper care and maintenance of tools and equipment by observation and shop performance.
4. Exhibit the ability to properly use electric drills and accessories by shop performance.
5. Define the types of thread cutting tools by oral assignment.
6. Exhibit the ability to properly use the tube flaring tools by shop performance.
7. Exhibit the ability to properly use the measuring devices by shop performance.
8. Exhibit the ability to properly use the soldering tools and materials by shop performance.
9. Demonstrate an understanding of the use of power tools in the shop by oral assignment.
10. Demonstrate proper use of bench vises and clamps by shop performance.
11. Exhibit the ability to properly use the arbor presses by oral assignment.
12. Exhibit the ability to properly use the lifting devices by shop performance.
13. Demonstrate an understanding of the fasteners used in the auto body repair shop by oral assignment.

BLOCK V - BODY REPAIR TOOLS AND EQUIPMENT

The student must be able to:

1. List the hand tools used in auto body repair by written assignment.
2. List the power equipment used in auto body repair by written assignment.
3. Demonstrate an understanding of the shop equipment by performance in the shop.
4. Demonstrate an understanding of the spray painting equipment by performance in the shop.

BLOCK VI - QUINMESTER POST TEST

The student must be able to satisfactorily complete the quinmester post tests by written assignment.

Course Outline

AUTOMOTIVE BODY REPAIR AND REFINISHING - BASIC - 9033
(Introduction to Auto Body and Refinishing)

Department 48 - Quin 9033.01

I. ORIENTATION

A. Objectives of The Course
1. General
2. Specific

B. Student Benefits
1. Advised and counseled regarding probable success
2. Learn a trade
3. Receive a trade certificate
a. Type
b. Requirements
4. Prepared to pass examinations for employment
a. Oral
b. Written
c. Manipulative
d. Diagnosis and job performance
5. Assisted in job placement
a. Instructor
b. Advisory committee
c. Lindsey Hopkins Placement Service
d. Florida State Employment Service
e. Others
6. Qualifications for employment
a. Job competency
b. Attitude
c. Dependability
d. Pride and workmanship
e. Experience
f. Trade certificate
g. Foundation for more education and training

C. The Automotive Body Repairman and Refinisher
1. Scope of the trade
a. Job classifications and duties
(1) General
(2) Specialists
b. Career opportunities
c. Average wage scales
d. Qualifications for employment
(1) Education
(2) Work experience
(3) Age
(4) Physical
(5) Driver's license
(6) Recommendations
2. Advantages and disadvantages of the trade
3. Ethics and legal responsibilities of the trade

D. Teaching Methods and Techniques
   1. Purpose of lecture
   2. Advantages of teacher demonstration
   3. Types of audio-visual equipment

E. Methods of Student Evaluation
   1. Performance
   2. Attitude
   3. Safety habits
   4. Oral participation
   5. Written tests
   6. Achievement or manipulative jobs
   7. Performance on textbook assignments

F. School Regulations and Policies
   1. Procedure of enrolling
   2. Expense of course
      a. Enrollment
         (1) Initial
         (2) Re-enroll
         (3) Quinmester
      b. Textbooks and workbooks
      c. Shop and material fee
      d. Uniform and laundry service
   3. Class roll book
      a. Tardy
      b. Absences
   4. Dress
   5. Smoking
   6. Break periods
   7. Location and use of school facilities
      a. Library
      b. Telephones
      c. Rest rooms
      d. Eating facilities

G. Shop Rules and Procedures
   1. Policy and importance of students reporting accidents
   2. Policy of checking out tools
      a. General shop equipment
      b. Individual tools issued to students
   3. Reporting lost, broken and inoperative tools and equipment
   4. Safety rules
   5. Locating and using
      a. Electric switches
      b. Wash area
      c. Lockers
      d. Storage areas
   6. Clean-up techniques

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II. SHOP SAFETY

A. Fire Extinguishers
   1. Types
   2. Location
   3. Proper use

B. Fires
   1. General alarm
      a. Location of fire alarm
      b. Alarm signals relayed from other areas
      c. Procedure for securing shop and evacuating building
   2. Gasoline and solvent shop fires
      a. Precaution when handling
      b. Methods of extinguising flaming liquids
      c. Location and use of extinguishers
      d. Safety precautions when using fire extinguishers
   3. Electrical fires (shop wiring system)
      a. Location of shop master control button
      b. Precautions to be observed during electrical fires
   4. Electrical fires (automotive wiring system)
      a. Safety precautions when working around vehicle electrical systems
      b. Methods of controlling and extinguishing an automotive electrical fire.

C. Fumes
   1. Carbon monoxide
      a. Location of shop exhaust blower controls
      b. Rules for operating engines inside the shop
   2. Battery fumes
      a. Dangers of fume inhalation
      b. Explosive nature of battery fumes

D. Electrical Shock Hazards
   1. Description and function of electrical code in automotive shop
   2. Power cords and equipment
      a. Care and use of cords
      b. Proper grounding of equipment

E. Shop Equipment Safety
   1. Rules regarding use of stationary equipment
   2. Rules and work precautions regarding using portable and hand tools
   3. Importance to student of reporting and not using
      a. Equipment with missing parts
      b. Equipment which needs maintenance
   4. Importance to student of safe use of equipment
   5. Storage and care of shop equipment
      a. Housekeeping
      b. Organization

F. Shop Dress
   1. Rules
      a. Uniforms
      b. Shoes
      c. Wearing of jewelry and accessories

2. Safety precautions
    a. Uniforms
    b. Shoes
    c. Jewelry and accessories

G. Parking and Road Testing Automobiles
1. Rules and procedure for starting, moving and road testing
2. Safety checks before getting under vehicle
3. Safety procedure on car with carburetor removed

H. Chemicals
1. Cleaning parts by hand
2. Using parts cleaning equipment
3. Cleaning solvents for parts
    a. Function
    b. Types
    c. Composition
    d. Techniques of safe use
        (1) Skin
        (2) Eyes
4. Steam cleaning
    a. Function
    b. Types
    c. Techniques of safe use

III. HUMAN RELATIONS

A. Applying for A Job
1. Techniques of calling and requesting an appointment
2. Completing job applications forms from employers
3. Importance of having personal resume information
4. Basic requirements for interview
    a. Be on time
    b. Personal cleanliness and appearance
    c. Courtesy
    d. Let the employer lead the conversation
    e. Be specific and speak clearly

B. Employer-Employee Relations
1. Importance of job description and job responsibilities of employee
2. Type of salary and method of determining
    a. Hourly
    b. Commission
3. Knowledge of organizational structure of company
    a. Immediate superior
    b. The chain of authority
4. Importance of personal appearance
5. Importance of dependability on part of employee
    a. Punctual
    b. Call in when ill

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III. HUMAN RELATIONS (Contd.)

6. Cleanliness and organization of work area
7. Importance of keeping abreast of technical changes
8. Methods of assisting with public relations
5 a. Be loyal to your superior
   b. Be loyal to your company
   c. Use the products you sell or service
   d. Recommend other needed customer work
   e. Build customer confidence
9. Offer suggestions and ideas
10. Methods of using idle time on the job
   a. Housekeeping
   b. Repairing personal tools
   c. Repairing or tagging company tools and equipment
   d. Studying factory manuals
   e. Asking your superior for work

C. Employee-Employee Relations
1. Importance of cooperativeness
2. Importance of personal cleanliness
3. Importance of housekeeping
4. Importance of procedure when using company tools and equipment
5. Importance of care of facilities

D. Employee-Customer Relations
1. Importance and function of customer relations
2. Importance of employee's appearance
3. Technique of writing and interpreting repair orders
4. Procedure and techniques of estimating
5. Purpose and techniques of using seat and fender covers
   a. Effect of grease on clothes and dresses
   b. Cleaning car after service
   c. Importance of delivering a "clean" car
6. Techniques of protecting yourself and company from lawsuits
   a. Quality work
   b. Purpose of writing "not guaranteed" on repair orders
7. Techniques of building "repeat" business
8. Telephone techniques
   a. Answering the telephone
      (1) Speak into mouthpiece
      (2) Speak clearly
      (3) Identify company and person speaking
      (4) Be courteous and complimentary
   b. Taking messages in writing
      (1) Obtain name and identify the caller
      (2) Caller's telephone number
      (3) Hour and day of call
      (4) Name of person accepting call
9. Importance and techniques of handling customer complaints

A. Automotive Hand Tools
   1. Screwdrivers - Types, sizes, uses, care and safety precautions
      a. Standard bit
      b. Phillips
      c. Reed and Prince
      d. Clutch
   2. Hammers-types, sizes, uses, care and safety precautions
      a. Ball peen
      b. Straight peen
      c. Side peen
      d. Sledge
   3. Mallets-types, sizes, uses, care and safety precautions
      a. Plastic
      b. Leather
      c. Brass
      d. Rubber
   4. Punches-types, sizes, uses care and safety precautions
      a. Center
      b. Prick
      c. Starting
      d. Pin
      e. Aligning drift
   5. Chisels-types, sizes, uses, care and safety precautions
      a. Flat
      b. Cape
      c. Diamond
   6. Files-types, sizes, uses, care and safety precautions
      a. Single cut
      b. Double cut
   7. Hacksaws and blades-types, sizes, uses, care and safety precautions
      a. Manual
      b. Automatic
   8. Wrenches-types, sizes, uses, care and safety precautions
      a. Open end
      b. Combination
      c. Socket
      d. Box
      e. Spanner
      f. Strap
      g. Adjustable
      h. Torque
      i. Allen
      j. Tubing
      k. Special
   9. Pliers-types, sizes, uses, care and safety precautions
      a. Combination
      b. Water pump
      c. Needlenose
      d. Diagonal
      e. Vise-grip
      f. Special

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IV. SERVICE TOOLS AND BENCH SKILLS (Contd.)

B. Drilling and Reaming
   1. Electric drills - types, sizes, uses, care and safety precautions
      a. Portable drill
         (1) Selecting and measuring drill bits
         (2) Using prick and center punches for locating holes to be drilled
         (3) Using pilot drills
         (4) Drilling sized holes
      b. Drill press
         (1) Selecting speed and feed
         (2) Using holding and mounting devices
   2. Drill bits-types, sizes, uses, care and safety precautions
   3. Sharpening twist drill bits
   4. Reamers-types, sizes, uses, care and safety precautions
      a. Tapered
      b. Adjustable
      c. Special

C. Thread Cutting
   1. Hand taps-types, sizes, uses, care and safety precautions
      a. Starting
      b. Plug
      c. Bottoming
   2. Tap handles-type, sizes, uses, care and safety precautions
      a. Straight type
      b. T type
   3. Hand dies-types, sizes, uses, care and safety precautions
   4. E-Z outs-types, sizes, uses, care and safety precautions
   5. Broken studs
      a. Drilling
      b. Removing

D. Tube Flaring Tools
   1. Types, sizes, uses, care and safety precautions
   2. Techniques of using flaring tools
      a. Cutting copper or steel
      b. Bending copper or steel
      c. Flaring copper or steel

E. Measuring Instruments
   1. Steel rule
      a. Types
      b. Sizes
      c. Care
   2. Calipers
      a. Types
      b. Sizes
      c. Care
   3. Gages
      a. Thread gauge

b. Drill gauge
(1) Types
(2) Sizes
(3) Care

F. Soldering Tools and Material
1. Soldering guns-types, sizes, uses, care and safety precautions
a. Electric soldering
b. Propane torch soldering
(1) Cleaning
(2) Shaping
(3) Tinning
(4) Wire splicing
(5) Terminals
(6) Printing circuits
2. Solder-types and uses
a. Wire acid core
b. Wire resin core
c. Bar

G. Power Tools
1. Air chisels-types, sizes, uses, care and safety precautions
2. Impact wrenches - types, sizes, uses, care and safety precautions
a. Air
b. Electric
3. Bench grinder-function, nomenclature and safety precautions
a. Store abrasive wheel
b. Wire wheel

H. Bench Vises and Clamps
1. Vises
a. Types
b. Sizes
c. Uses
d. Safety precautions
2. Clamps
a. Types
b. Sizes
c. Uses
d. Safety precautions

I. Arbor Presses
1. Hydraulic
a. Types
b. Sizes
c. Uses
d. Safety precautions
2. Manual
a. Types
b. Sizes
c. Uses
d. Safety precautions

IV. SERVICE TOOLS AND BENCH SKILLS (Contd.)

J. Lifting Devices
   1. Vehicle lifts-types, sizes, uses, nomenclature, care and safety precautions
      a. Frame lifts
      b. Suspension lifts
   2. Hydraulic floor jacks-types, uses, sizes, nomenclature, care and safety precautions
   3. Bumper jacks-types, sizes, uses, nomenclature, care and safety precautions
   4. Portable lifts-types, sizes, uses, nomenclature, care, and safety precautions

K. Fasteners
   1. Threaded fasteners-types, sizes, uses, nomenclature and composition
      a. Cap screw
      b. Bolt
      c. Stud
      d. Machine screw
      e. Set screw
      f. Sheet metal screws
      g. Carriage bolt
      h. Stool bolt
      i. Castellated nut
      j. Self-locking nut
      k. Pal nut
      l. Jam nut
      m. Wing nut
      n. Special nuts
   2. Spring fasteners-types, sizes, uses, nomenclature, and composition
      a. Spring type lock washers
      b. Shake proof lock washers
         (1) External
         (2) Internal
         (3) Internal-external
      c. Star washers
      d. Flat washers
      e. Snap rings
         (1) Internal
         (2) External
      f. Hairpin locks
   3. Pin fasteners-types, sizes, uses, nomenclature, and composition
      a. Straight pin
      b. Tapered pin
      c. Special
      d. Clevis pin
      e. Cotter pin
      f. Rivet
   4. Keys-types, sizes, uses, nomenclature and composition
      a. Straight
      b. Woodruff
      c. Special

V. BODY REPAIR TOOLS AND EQUIPMENT

A. Body Repair and Hand Tools
   1. Body hammer
      a. Types
      b. Shapes
      c. Construction
         (1) Weight
         (2) Balance
   2. Dollies
      a. Types
      b. Shapes
      c. Construction
         (1) Weight
         (2) Balance
      d. Techniques of use
      e. Care
   3. Body spoons and body picks
      a. Types
      b. Shapes
      c. Uses
      d. Construction
         (1) Weight
         (2) Balance
      e. Techniques of use
      f. Care
   4. Body files
      a. Types
      b. Uses
      c. Care

B. Automotive Body Repair Power Equipment
   1. Electric disc sander
      a. Types
      b. Uses
      c. Sanding disc
         (1) Sizes
         (2) Abrasive grits
         (3) Uses
      d. Work and safety precautions
   2. Orbital air sander
      a. Types
      b. Uses
      c. Care
      d. Work and safety precautions
   3. Abrasive disc
      a. Types
      b. Uses
      c. Composition of discs
   4. Body jacks
      a. Types
      b. Construction
      c. Uses
      d. Care
      e. Work and safety precautions

V. BODY REPAIR TOOLS AND EQUIPMENT (Contd.)

5. Panel cutters
   a. Type
   b. Construction
   c. Uses
   d. Care
   e. Work and safety precautions

C. Shop Equipment
1. Hydraulic jacks
2. Safety stands
3. Hydraulic hoists
4. Bench grinder
   a. Goggles
   b. Eye shields
   c. Guards
5. Hydraulic press
6. Air driven tools
7. Compressed air line and fittings
8. Alignment equipment
9. Electrical equipment
10. Work benches
11. Acetylene and oxygen welding equipment
   a. Welding
   b. Heating
   c. Cutting
12. Air compressor
   a. Function
   b. Operation
   c. Types
   d. Ratings
   e. Nomenclature
   f. Maintenance
   g. Safety precautions
13. Air supply lines
   a. Functions
   b. Composition
14. Air transformer
   a. Function
   b. Operation
   c. Types
   d. Sizes
   e. Nomenclature
   f. Maintenance
   g. Safety precautions
15. Hoses, couplings and fittings
   a. Functions
   b. Types
   c. Selection
   d. Care
   e. Maintenance
   f. Safety precautions

16. Paint spray guns
    a. Suction feed
    b. Pressure feed
    c. Internal mix gun
    d. External mix gun
17. Paint spray booths
    a. Dry types
    b. Air washer type
    c. Temperature
18. Paint drying equipment
    a. Tunnel type baking oven
    b. Portable racks
        (1) Infrared lamps
        (2) Ceramic heating units
19. Paint respirators
    a. Types
    b. Manufacture
    c. Construction
    d. Materials
    e. Uses
    f. Safety precautions
20. Paint buffer and polisher
    a. Types
    b. Function
    c. Composition
    d. Techniques
    e. Safety precautions

VI. QUINMESTER POST TESTS

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	Dade Co. No.
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2. ABC of Hand Tools, Part II, 16mm, 16 min. color, sound. General Motors.	1-11397
3. Accidents Happen to Sam, 16mm, 13 min. B/W, sound, National Safety	1-11339
4. Hammers, 16mm, 13 min. B/W, sound, United World Films, Inc.	515
5. I Want a Job, 16mm, 26 min. B/W, sound, Ford Motor Co.	1-11568
6. Know Your Car, 16mm, 15 min. B/W, sound, 1945. United World Films, Inc.	993

Dade Co. No.

7. Pliers & Screwdrivers, 16mm, 18 min. B/W, Sound, 1943. United World Films, Inc. 525

8. Punches, Drifts and Bars, 16mm, 14 min. B/W, sound, 1943, United World Films, Inc. 527

A P P E N D I X

Quinmester Post-Test Sample

QUINMESTER POST TEST SAMPLE #1

NAME _____ DATE _____ SCORE _____

Place the word selected for the question in the space at the beginning of the question as well as in the line space within the sentence. Words are at bottom of the page.

_____1. All _____ connections must be observed and checked before use.

_____2. All _____ tools, connections and hoses checked before using.

_____3. Be sure you know where _____ are in case of an explosion or fire in the shop or automobile.

_____4. When using a floor jack, be sure there are _____ stands in use before crawling under the car or working on it.

_____5. If you should get hurt while working in the shop, you should report it immediately to the _____.

_____6. When grinding or sanding you should always use _____.

_____7. When using sharp tools you should be very _____.

_____8. If a motor of a car is running in a shop, a poison gas called _____ _____ comes from the car and could cause death.

_____9. Wearing loose clothing is very _____ while working with power tools.

_____10. Throwing tools or things about the shop shows an _____ attitude.

_____11. Room conditions are important; be sure if an _____ is on the floor you pick it up-even though you did not put it there.

_____12. Never leave _____ on the floor; clean it up when you move the car, as it is very dangerous and may cause someone to fall.

_____13. Flammable liquids such as gasoline, or thinners should rever be left around in containers near a flame, torches, matches or sparks because they are _____ materials.

_____14. It is not where you work, but _____ you work that will make you careful.

_____15. Proper attitudes are important, so don't think you know it all and become _____.

****

Words for above questions:

Safety	Air	Fire extinguiser	Dangerous	Oil
Careful	Instructor	Eye protection	Explosive	How
Electrical	Irresponsible	Carbon monoxide	Careless	Object

QUINMESTER POST TEST SAMPLE #2

NAME _____ DATE _____ SCORE _____

Write TRUE or FALSE in the left space for each question.

_____1. All air tools, connections and hoses must be checked before use.

_____2. Carbon monoxide cannot cause death.

_____3. If you get hurt while working in the shop, you should report it immediately to the instructor.

_____4. When using sharp tools, you should be very careful.

_____5. If an object is on the floor, do not pick it up.

_____6. Leave oil on the floor; no one can fall because of it.

_____7. Flammable liquids should never be left around in containers near a flame, torches, matches or sparks.

_____8. Throwing tools or things about the shop is permissible.

_____9. All electrical tools and wire connections must be checked before use.

_____10. When using a floor jack, be sure there are safety stands in use before crawling under the car or working on it.

_____11. Use oil or grease on the oxy-acetylene gauges.

_____12. Oxygen and nitrogen are used for gas welding.

_____13. When lighting the torch, we turn on the acetylene valve first.

_____14. When turning off the torch, we turn off the acetylene valve first.

_____15. Never use more than 15 lbs. pressure of acetylene when gas welding.

_____16. We use a brass rod for electric welding.

_____17. When electric welding, we can use regular gas welding goggles for eye protection.

_____18. A neutral flame is the proper flame for welding.

_____19. The electric portable grinder is used to grind off the paint or rust from the panel.

_____20. When changing a disc on the portable grinder, you should <u>not</u> unplug the cord.

_____21. Eye protection must be used when using the portable electric grinder.

_____22. A number 16 disc has very fine grit.

_____23. A number 50 or 60 disc is used for removing heavy paint or rust.

_____24. We should pick up the grinder by the cord.

_____25. The grinder should be held firmly in both hands when in use.

QUINMESTER POST TEST SAMPLE #3

NAME _____ DATE _____ SCORE _____

The following items are multiple choice. Select the one you believe correct. Circle the letter provided at left of item.

1. The proper method to apply for a job is by:

   a. Asking a friend to apply for you
   b. Calling and requesting an appointment
   c. Sending a telegram
   d. None of above

2. The basic requirements for an interview are:

   a. Be on time
   b. Personal appearance
   c. Courtesy
   d. All of above

3. A dependable employee will:

   a. Be punctual and call in when ill
   b. Work whenever he wants to
   c. Not take a bus to work
   d. None of above

4. Idle time on the job can be used to:

   a. Do housekeeping
   b. Sleep
   c. Play cards
   d. Go for a pleasure ride

5. Cooperation is necessary for:

   a. Employer-employee relations
   b. Employee-employee relations
   c. Employee-customer relations
   d. All of the above

6. Quality workmanship will produce:

   a. Nothing
   b. A law suit
   c. Repeat business
   d. None of above

POST TEST SAMPLE #3 (Contd.)

7. Telephone messages should always be:

   a. Forgotten
   b. Taken in writing
   c. Discarded
   d. None of above

8. Using seat covers and fender covers will aid in the delivery of a:

   a. Dirty car
   b. Total wreck
   c. Clean car
   d. None of above

9. To assist in public relations, you should:

   a. Be loyal to your employer
   b. Be loyal to your company
   c. Use the products you sell or service
   d. All of above

10. When answering the phone, always:

   a. Speak clearly and into the mouthpiece
   b. Identify company and person speaking
   c. Be courteous and complimentary
   d. All of above

QUINMESTER POST TEST SAMPLE #4

NAME _____ DATE _____ SCORE _____

The following items are multiple choice. Select the one you believe correct. Circle the letter provided at left of item

1. The metal man's hand tools are primarily used for:

   a. Welding metal
   b. Removing panels
   c. Straightening metal or metal finishing
   d. Cutting metal

2. The basic metal straightening tools are:

   a. Bumping hammer, dolly and spoon
   b. Bumping hammer and screwdriver
   c. Pliers and screwdriver
   d. Bumbing hammer and pliers

3. The most widely used hammer is the:

   a. Sledge hammer
   b. Ball **pein** hammer
   c. Combination hammer
   d. Spoon hammer

4. A bumping hammer with a large head on one end and a pick on the other end is called a:

   a. Spoon hammer
   b. Sledge hammer
   c. Tack hammer
   d. Combination hammer

5. Dolly blocks are made in various shapes and crowns to:

   a. Make them easier to hold
   b. Fit the different crowns of metal
   c. Cut down weight
   d. Make them more streamlined

6. Spoons are used:

   a. For spreading the force of a hammer blow over a large area
   b. As dolly blocks
   c. As a prying or driving tool
   d. All of the above

POST TEST SAMPLE #4 (Contd.)

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7. A body file should:

   a. Always be pushed in the same narrow path
   b. Have the ends curved up at least ½" above the contour of the metal
   c. Be used like a wood plane
   d. Side shift a few inches to one side with each stroke

8. The bumping hammer and dolly block are the metalman's most important tools for:

   a. Welding a panel
   b. Bending a panel
   c. Straightening metal
   d. Straightening a frame

9. Using a dolly with the right crown on the working face will result in:

   a. Slower work
   b. Slower and better work
   c. Rougher work
   d. Faster and better work

10. Weight and balance must be considered in selecting a:

   a. Portable welder
   b. Floor jack
   c. Dolly block
   d. None of above

11. Working hammer-on-dolly will tend to:

   a. Cold-shrink the metal
   b. Soften the metal
   c. Anneal the metal
   d. Stretch the metal

12. The body spoon may be used to:

   a. Remove the headlight
   b. Straighten a wheel
   c. Replace a fender
   d. Fry out low metal

13. The choice of a body spoon is governed by the condition of the:

   a. Panel to be repaired
   b. Whole automobile
   c. Tires
   d. Bumping hammer

POST TEST SAMPLE #4 (Contd.)

14. The purpose of using the body file is to remove minor irregularities and:

    a. Straighten the inner panel
    b. Cut the low spots in the panel
    c. Show up larger surface irregularities
    d. None of above

15. A pick hammer should be used for:

    a. Roughing-out work
    b. Shrinking a roll-over buckle
    c. Working out a minor low spot
    d. Low-crown panel damage only

16. The portable disc sander commonly used in sheet metal repair is:

    a. An electric unit operating on 110 volts, 30 amp power supply
    b. An electric unit operating on 12 volt supply
    c. Operated manually
    d. Gas operated

17. If the backup pad on the disc sander is warped, it will:

    a. Operate smoothly
    b. Cause a vibration
    c. Not operate
    d. Cause overheating

18. Probably the most common cause of serious damage to the disc sander motor is:

    a. Overcooling
    b. Warping of the backup pad
    c. Overheating
    d. None of the above

19. A 36 grit grinding disc:

    a. Is finer than a 50 grit disc
    b. Is available in 7 inch and 9 inch sizes
    c. Is finer than a 24 grit disc
    d. Both answers B and C are correct

20. The purpose of the air transformer (regulator) is:

    a. To provide constant pressure to the spray gun at a desired setting
    b. To trap dirt in the compressed air
    c. To trap water and oil in the compressed air
    d. All of the above answers are true

POST TEST SAMPLE #4 (Contd.)

21. The air transformer (regulator):

a. Should be drained once a week
b. Should be drained daily
c. Should be drained monthly
d. Does not require draining

22. The typical spray gun used in the print and body shop is a:

a. Pressure-vacuum type
b. Compressed-flow control type
c. Suction or syphon type
d. Gravity-pressure cup type

23. Air pressure used for spraying acrylic enamel should be approximately:

a. 25-30 lbs at the gun
b. 30-35 lbs at the regulator
c. 50-60 lbs at the gun
d. 90-100 lbs at the regulator

24. Air pressure for a spot repair using acrylic lacquer should be approximately:

a. 25-30 lbs at the gun
b. 30-35 lbs at the regulator
c. 50-60 lbs at the gun
d. 90-100 lbs at the regulator

25. The use of spray guns for painting became possible:

a. Just prior to World War II
b. Only after the discovery of synthetic alkyds
c. Only with the invention of siphon-type spray guns
d. With the discovery of nitrocellulose lacquer.

QUINMESTER POST TEST SAMPLE ANSWER SHEET

POST TEST #1

1. Electrical
2. Air
3. Fire extinguisher
4. Safety
5. Instructor
6. Eye protection
7. Careful
8. Carbon monoxide
9. Dangerous
10. Irresponsible
11. Object
12. Oil
13. Explosive
14. How
15. Careless

POST TEST #3

1. B
2. D
3. A
4. A
5. D
6. C
7. B
8. C
9. D
10. D

POST TEST #2

1. True
2. False
3. True
4. True
5. False
6. False
7. True
8. False
9. True
10. True
11. False
12. False
13. True
14. True
15. True
16. False
17. False
18. True
19. True
20. False
21. True
22. False
23. False
24. False
25. True

POST TEST #4

1. C
2. A
3. C
4. D
5. B
6. D
7. D
8. C
9. C
10. C
11. D
12. D
13. A
14. C
15. C
16. A
17. B
18. C
19. D
20. D
21. B
22. C
23. C
24. C
25. D